

## CLAIMS

### What is claimed is:

1. An instrumentation set for implanting a disc replacement device, the set comprising:

a plurality of disc replacement trials, each of which has a distal head portion that approximates relevant dimensions of a corresponding one of a plurality of disc replacement devices, one of which plurality of disc replacement devices is to be implanted into an intervertebral space and includes opposing bearing elements, each bearing element having a bone attachment flange directed oppositely from the bone attachment flange of the other bearing element, each bone attachment flange having at least one bone screw hole and a mounting screw hole, the opposing bearing elements being placeable into a preferred relative positioning for implantation;

an insertion plate for maintaining the opposing bearing elements in the preferred relative positioning for implantation, the insertion plate comprising an anteriorly extending stem having a taper, and two mounting flanges, each mounting flange having a mounting screw bore that is aligned with a respective one of the mounting screw holes when the opposing bearing elements are in the preferred relative position for implantation, such that the opposing bearing elements can be mounted to the insertion plate in the preferred relative positioning for implantation by securing mounting screws through the mounting screw bores and into the mounting screw holes;

an insertion handle for manipulating the insertion plate and the opposing bearing elements when the opposing bearing elements are mounted to the insertion plate, the insertion handle having a longitudinal bore that has an inner taper at a distal end of the longitudinal bore, which inner taper opposes the taper of the central stem for friction locking thereagainst, the insertion handle having a flange at a proximal end;

an insertion pusher for releasing the insertion handle from the insertion plate, the insertion pusher having a shaft and a flange at a proximal end of the shaft, the shaft having a diameter smaller than a smallest diameter of the longitudinal bore and a length at least as long as the longitudinal bore, such that the shaft is insertable into and translatable within the longitudinal bore and accordingly placeable against the stem of the insertion plate when the

insertion handle is friction locked thereto, and such that when the insertion pusher is so placed, a bringing together of the insertion handle flange and the insertion pusher flange pushes the stem out of the longitudinal bore of the insertion handle;

a drill guide for guiding a drilling of tap holes for bone screws that are to be disposed through the bone screw holes, the drill guide having at least one drill guide hole and a bore that accommodates the stem of the insertion plate such that the drill guide is placeable and rotatable thereon to align the at least one drill guide hole with the at least one bone screw hole of each of the opposing elements' flanges;

two retaining clips, each for attachment to a respective one of the opposing elements' flanges to resist backout of the at least one bone screw of the opposing element flange, each of the clips having at least one hook flange that is snappably attachable to either of the opposing element flanges, each of the clips having at least one cover flange dimensioned to cover at least a portion of at least one of the bone screw of the opposing element flange when the clip is so snapped thereon, each clip having a holding bore; and

a clip applicator for holding the retaining clips for attachment to the opposing elements' flanges, the clip applicator having a pair of tongs, each tong having a nub at a distal end, which nub is snappable into and out of either retaining clip's holding bore.